

ABSTRACT

A transport system is provided for a sample testing machine. The transport system includes a carrier holding a set of test sample devices and a drive subsystem for moving the carrier through the sample testing machine. The drive subsystem includes a reciprocating motor-driven block engaging the carrier and moving the carrier back and forth in a predetermined longitudinal path extending along a longitudinal axis from an entrance station to a plurality of processing stations in the sample testing machine. The processing stations are accessed as the carrier is moved along the path. The carrier includes features in the form of slots that are detected by strategically placed optical interrupt sensors. As the carrier moves, the slots are detected by the sensors to thereby continuously track the position of the carrier and the test devices as they are moved through the instrument.